

SAFETY DATA SHEET

1. Identification

Product identifier AGROTAIN® ADVANCED
Other means of identification
Product code KAS_AGRO_ADVANCED_US_EN
Recommended use Fertilizer Additive.
Recommended restrictions Use in accordance with supplier's recommendations.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Koch Agronomic Services, LLC
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Wichita, KS 67220 US
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1.866.863.5550

Emergency For Chemical Emergency
Call CHEMTREC day or night
USA/Canada - 1.800.424.9300
Mexico - 1.800.681.9531
Outside USA/Canada - 1.703.527.3887
(collect calls accepted)

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Reproductive toxicity Category 2
OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Causes skin irritation. Causes serious eye damage. Suspected of damaging fertility or the unborn child.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Response If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If exposed or concerned: Get medical advice/attention.
Storage Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Triethylene glycol monobutyl ether	143-22-6	30 - 60
N-(n-butyl)-thiophosphoric triamide	94317-64-3	15 - 40
Propylene glycol	57-55-6	10 - 30
Non-hazardous ingredients	Proprietary	7 - 13
2-(2-Butoxyethoxy)-ethanol	112-34-5	1 - 5

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.

4. First-aid measures

Inhalation

Move person to fresh air. If the affected person is not breathing, apply artificial respiration. Get medical attention immediately.

Skin contact

Immediately flush skin with plenty of water. Get medical attention if irritation develops and persists.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Ingestion

Rinse mouth thoroughly. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention.

Most important symptoms/effects, acute and delayed

Causes serious eye damage. Symptoms include itching, burning, redness, and tearing of eyes. Skin irritation. May damage fertility or the unborn child.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Water spray. Carbon dioxide (CO₂). Foam.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Fire fighting equipment/instructions

Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do it without risk.

General fire hazards

The product is not flammable.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid inhalation of vapors/spray and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing. For personal protection, see Section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers or watercourses.

7. Handling and storage

Precautions for safe handling Avoid inhalation of vapors/spray and contact with skin and eyes. Use only with adequate ventilation. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2-(2-Butoxyethoxy)-ethanol (CAS 112-34-5)	TWA	10 ppm	Inhalable fraction and vapor.

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
Propylene glycol (CAS 57-55-6)	TWA	10 mg/m ³	Aerosol.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Provide adequate general and local exhaust ventilation. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical goggles are recommended.

Skin protection

Hand protection

Chemical resistant gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

Other

Chemical resistant clothing is recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear air supplied respiratory protection if exposure concentrations are unknown. In case of inadequate ventilation or risk of inhalation of mist, use suitable respiratory equipment with particle filter. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134 and ANSI Z88.2.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Green liquid.
Physical state	Liquid.
Form	Liquid.
Color	Green.
Odor	Sweet. Glycol. Slight ammonia.
Odor threshold	Not available.
pH	8.1 - 8.6 (10% in H ₂ O)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density 1.055

Solubility(ies)

Solubility (water) Soluble.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity 29 cP

Other information

Density 8.78 lb/gal

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Stable under normal temperature conditions.

Possibility of hazardous reactions Hazardous polymerization does not occur.

Conditions to avoid Extreme temperatures.

Incompatible materials Acids. Strong reducing agents. Strong oxidizing agents.

Hazardous decomposition products During combustion: Carbon oxides. Nitrogen oxides. Sulfur oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation In high concentrations, vapors may irritate throat and respiratory system and cause coughing.

Skin contact Causes skin irritation.

Eye contact Causes serious eye damage.

Ingestion May be harmful if swallowed. Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract.

Symptoms related to the physical, chemical and toxicological characteristics Causes serious eye damage. Symptoms include itching, burning, redness and tearing. Causes skin irritation.

Information on toxicological effects

Acute toxicity May be harmful if swallowed. Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract.

Components	Species	Test Results
2-(2-Butoxyethoxy)-ethanol (CAS 112-34-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2700 mg/kg
<i>Oral</i>		
LD50	Rat	4500 mg/kg
N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	> 2823 mg/kg

Components	Species	Test Results
Propylene glycol (CAS 57-55-6)		
Acute		
<i>Oral</i>		
LD50	Rat	30 g/kg
Triethylene glycol monobutyl ether (CAS 143-22-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	3.54 ml/kg
<i>Inhalation</i>		
LC50	Rat	> 2400 mg/m3
<i>Oral</i>		
LD50	Rat	5170 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	No data available.	
Skin sensitization	No data available.	
Germ cell mutagenicity	Based on available data, the classification criteria are not met.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	Suspected of damaging fertility or the unborn child.	
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.	
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.	
Aspiration hazard	Not classified.	
Chronic effects	Prolonged exposure may cause chronic effects.	
Further information	No other specific acute or chronic health impact noted.	

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3)		
Aquatic		
Crustacea	EC50	Daphnia magna
		290 mg/l, 48 hours
Fish	LC50	Fish
		1140 mg/l, 96 hours
Persistence and degradability	No data available.	
Bioaccumulative potential	No data available.	
Partition coefficient n-octanol / water (log Kow)		
2-(2-Butoxyethoxy)-ethanol (CAS 112-34-5)		0.56
Propylene glycol (CAS 57-55-6)		-0.92
Mobility in soil	Not available.	
Mobility in general	The product is soluble in water.	
Other adverse effects	No data available.	

13. Disposal considerations

Disposal instructions Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3) 1.0 % One-Time Export Notification only.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

2-(2-Butoxyethoxy)-ethanol (CAS 112-34-5)	LISTED
Triethylene glycol monobutyl ether (CAS 143-22-6)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Triethylene glycol monobutyl ether	143-22-6	30 - 60
2-(2-Butoxyethoxy)-ethanol	112-34-5	1 - 5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

2-(2-Butoxyethoxy)-ethanol (CAS 112-34-5)
Triethylene glycol monobutyl ether (CAS 143-22-6)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

2-(2-Butoxyethoxy)-ethanol (CAS 112-34-5)
Propylene glycol (CAS 57-55-6)

Triethylene glycol monobutyl ether (CAS 143-22-6)

US. Pennsylvania Worker and Community Right-to-Know Law

2-(2-Butoxyethoxy)-ethanol (CAS 112-34-5)

Propylene glycol (CAS 57-55-6)

Triethylene glycol monobutyl ether (CAS 143-22-6)

US. Rhode Island RTK

2-(2-Butoxyethoxy)-ethanol (CAS 112-34-5)

Triethylene glycol monobutyl ether (CAS 143-22-6)

US. California Proposition 65

Not Listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	15-October-2014
Revision date	27-January-2015
Version #	02
HMIS® ratings	Health: 2* Flammability: 1 Physical hazard: 0

NFPA ratings



List of abbreviations

LD50: Lethal Dose, 50%.
LC50: Lethal Concentration, 50%.

References

ACGIH
EPA: AQUIRE database
US. IARC Monographs on Occupational Exposures to Chemical Agents
HSDB® - Hazardous Substances Data Bank
National Toxicology Program (NTP) Report on Carcinogens

Disclaimer

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